severity of complications like GVHD can be problematic. We have assigned one full-time Nurse Practitioner (NP) to follow the allogeneic patients from day 80-100 to the end of the first year after transplantation. The LTFU program NP coordinates care with the patient's clinic physician and Physician Assistant (PA). An extensive assessment is performed around the time the patient will be leaving the transplant center. Baseline data and outcome tracking will include incidence and severity of chronic graft vs. host disease, infections, endocrine and nutritional disorders, quality of life, and survival. Interesting trends have been noted and will be reported. Information about assessment tools and outcomes will be shared.

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BK VIRUS: A PROBLEM IN THE PEDIATRIC BONE MARROW TRANSPLANT PATIENT

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BK Virus is a polyomavirus that infects a large percentage of the human population; however, clinically significant infections develop almost exclusively in immunocompromised patients. BK Virus is one of the viruses that may be associated with hemorrhagic cystitis (HC) in bone marrow transplant (BMT) patients. Recently at The Children's Hospital in Denver there was concern that the incidence of BK virus might be increasing in our BMT population. Of the 307 patients transplanted from 1/94-8/06 (144 autologous and 163 allogeneic), 60 developed HC, nine of these 60 in the last year. BK virus was documented by urine PCR in 37; 6 had a documented negative; and 17 had no documented BK testing. Routine testing at our institution did not begin until 1999 and is only done if a patient develops clinical HC. Evaluation of our data currently does not support an increased incidence. It appears patients who are more severely immunocompromised, whether from their disease or treatment regimen, were at greater risk for being positive for BK virus-associated HC. An explanation of our increased numbers is we are treating greater number of patients who are more severely immunocompromised. In our population all patients with a positive BK were 4 years or older. Although sex does not appear to be a significant risk factor, it appears clinically boys had a higher morbidity than girls. Obstruction from clots that resulted in pain & urine retention was the main complications boys experienced. Treatment for BK virus is primarily related to symptom management & includes aggressive hydration, pain & bladder spasm treatment and transfusion support. Emotional support of patients and family is critical. Cidofivir has shown some efficacy in treatment of BK viruria. More severe cases have also received bladder irrigation, prostaglandin instillation &/or hyperbaric oxygen. Our institution is also exploring methods to prevent transmission of the virus such as isolation and improved hand washing techniques. Nursing management & support of patients and families is key to a successful outcome. This includes initiating a diagnostic/treatment plan at the first sign of HC, facilitating research studies, providing explanations of the drugs and procedures used to alleviate symptoms, monitoring labs and providing emotional support. Since there are many unanswered questions and no optimum treatment, we continue to need further research concerning prevention & management of BK virus-associated HC.

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IMPROVING YIELD FROM BLOOD CULTURES FOR TRANSPLANT PATIENTS

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Treatment and disease related factors place hematopoietic stem cell transplant (HSCT) patients at risk for life threatening infections. Multiple blood cultures are common in the attempt to identify a causative organism, guide antimicrobial coverage, and provide for optimum patient outcome. Historically there were inconsistencies in the number of sets that were drawn and the number of sites that were accessed for collecting the blood culture specimens. The goal of this project was to develop an evidenced-based protocol that would standardize practice for blood cultures and improve the clinical usefulness of results. Our performance improvement (PI) team worked with the transplant and infectious disease physicians to develop the protocol for drawing blood cultures. Staff were educated regarding the new policy and its rationale. Compliance with the protocol was monitored and variations in practice were addressed with individual staff members. Three months of data post protocol implementation (Time 2) were compared with historical data (Time 1). During T1, 96 patients had 314 culture events; during T2, 85 patients had 293 culture events. The average number of cultures per febrile patient during hospitalization in T1 was 4.5 sets, and each febrile patient was cultured an average of 3.2 days during the hospital stay. In T2, each febrile patient had an average of 7.4 culture sets drawn during the stay, and was cultured an average of 3.4 days. In T1, 37% of the time cultures were obtained from more than one site as compared to 89% in T2. Although the number of culture events did not change significantly, the protocol resulted in an increased number of positive cultures and infections identified in febrile patients. This project demonstrates how a nurse driven initiative can promote evidenced-based practice change that has the potential to improve patient outcomes.

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THE SAFETY AND EFFICACY OF PROPHYLACTIC VORICONAZOLE TO PREVENT FUNGAL INFECTIONS IN PEDIATRIC BLOOD AND MARROW TRANSPLANT PATIENTS

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Infection is one of the leading causes of morbidity and mortality in patients undergoing hematopoietic stem cell transplantation. Increased risk of infection is associated with prolonged neutropenia and delayed immune reconstitution which are common in recipients of unrelated donor cord blood or T-cell depleted adult grafts. In the past, invasive fungal infections were frequent and more difficult to treat. *Aspergillus* is commonly seen in immunocompromised patients and is challenging from a nursing care standpoint. Patients with pulmonary involvement are often febrile with increasing oxygen requirements in addition to having increased numbers of medication infusions. Historically, amphotericin B was used prophylactically to prevent fungal infections. New studies are testing whether voriconazole is superior to other antifungal agents for prevention and treatment of invasive fungal disease. By comparison, voriconazole has fewer side effects than amphotericin B, with less nephrotoxicity which is advantageous in the transplant setting with concomitant administration of cyclosporine or tacrolimus. The use of voriconazole has been associated with a decrease in the number of *Aspergillus* cases but a concomitant rise in less serious infections with azole-resistant candida species. The purpose of this abstract is to outline the nursing care associated with patients with invasive fungal disease. Specific goals will be to describe the clinical presentation of the patient with fungal disease as well as the treatment options and associated side effects.

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PROPHYLAXIS OF PNEUMOCYSTIS CARINII PNEUMONIA (PCP) WITH INHALED PENTAMIDINE IN PEDIATRIC PATIENTS UNDERGOING HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Pneumocystis carinii pneumonia (PCP) is a potentially life threatening opportunistic infection that occurs in immunosuppressed patients. The drug of choice for the treatment and prevention of this disease is trimethoprim-sulfamethoxazole (TMP) but alternatives are often needed because of adverse effects or treatment failure. Pentamidine is one alternative commonly used in patients undergoing hematopoietic stem cell transplantation because, unlike TMP, it is not myelosuppressive. Pentamidine has very low rate of absorption from the